

Title of the Article	Perception of companies, tutors and apprentices on the Implementation of the Paraguayan Model of Dual Training (MoPaDual) in the specialty of Metal Mechanics of the National Service of Professional Promotion (SNPP).
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1. SUMMARY

This work was carried out in response to the need to answer questions about the implementation of the Modelo Paraguayo de Formación Dual (MoPaDual) in the National Service for Professional Promotion (SNPP) in the specialty of Industrial Mechanics. The study carried out was of a descriptive level, while its general objective focused on analyzing the perception of entrepreneurs, tutors and apprentices about the implementation of MoPaDual in the specialty of Industrial Mechanics of the SNPP, it was of a transversal type because the data collection was carried out in a single period of time, year 2020.

The applied design was the field because data were collected from subjects participating in the selected program. The population was 51 participants; no sample was extracted. Surveys with open-ended questions were used; the variables were: assessment of the employers of the curricular plan, perception of the training offered by the instructors and the degree of satisfaction and level of employability.

Regarding the results, the first variable demonstrates the 71% satisfaction of employers about the curricular plan and its adaptation to the labor market; the perception of the training offered by the instructors, according to the employers 88% mention that it is adequate and 93% of the tutors qualified as adequate.

The satisfaction of the company with the performance of the apprentices, 57% of the entrepreneurs gave a rating between 3 and 4; in terms of the level of employability of apprentices, 88% of them are working in the company where they were apprentices. It is concluded that, beyond the effects that the model has at the individual and business level among its participating actors, the articulation generated between education and employment can have better effects if there is a consolidation of this link that allows its continuity, an extension to a greater number of training centers and companies, and greater recognition and validity at the national level.

2. INTRODUCTION

The insufficient accumulation of skills translates into lower productivity and these limit the capacity for long-term economic growth, which is especially relevant in the context of a country where most of the last decade has experienced significant growth that has had an impact on a significant increase in per capita income and on the sectoral composition of economic activity (Inter-American Development Bank, 2011).

In terms of productivity, Paraguay ranks 14th out of 18 countries in Latin America and the Caribbean and 117th out of 138 countries in the measurement of the Total Competitiveness Index. It is important to note that, in the calculation of the index in Paraguay, the third most important cause as a factor limiting business is the skills gap of the workforce (World Economic Forum, 2016).

According to official data, more than 2.2 million people in the country are between the ages of 15 and 29, who despite accumulating more years of schooling on average (11.4 years) than previous generations, the training of the mandatory 12 years does not become a reality (National Directorate of Statistics, Surveys and Census, 2018).

Within the Paraguayan educational system there are various offers of Technical Education and Vocational Training (ETFP) of medium, tertiary and vocational training. Already at the basic middle level (Basic Education, 3rd cycle) there is a first option of differentiation between general and vocational education, the latter oriented to the agricultural area and concentrated mainly in the rural area Agricultural Professional Initiation (IPA). (Ministry of Education and Science, 2018).

In secondary education, there is diversification between the scientific baccalaureate (which groups 77% of the enrollment of this level) and technical (which groups the remaining 23%). The enrollment of the technical baccalaureate reached 57,727 students in 777 institutions in 2017 and is taught in 27 specialties. Although a large proportion of enrollment is concentrated in administration and accounting options, followed by computer science, agriculture and health (Ministry of Education and Science, 2018).

The development strategies of the ETFP require incorporating training offers with the possibility of opening the doors of the labor market to young people and thus favoring economic progress and social mobility, far from being a poor and devalued alternative for less prepared students, as has been considered for many years.

To achieve this, it is necessary that in its design and development a fluid relationship is established between the educational environment and the professional-labor environment.

The education-employment articulation benefits students, educational institutions and the business sector within the territory where they interact, in addition to having an impact on the development and dynamism of the region.

With the intention of improving this link and providing students with knowledge and skills that meet the demand of the productive sector in terms of trained personnel, educational models such as Dual Training emerge.

This model aims to train graduates who have theoretical-practical knowledge and work experience, to satisfy the qualifications sought by contracting companies in the region and easily enter the labor market. The success of the dual model in Germany has led to its export and adaptation to different countries, with Paraguay being one of the countries involved in this educational modality.

3. DEVELOPMENT

The recent project to implement the Paraguayan Model of Dual Training (Mopadual) in the National Service for Professional Promotion (SNPP) and its impact on the education-employment articulation, has led to questions regarding its design, implementation, participating actors and the perception of the productive sector of this modality of professional training.

The success or failure of the implementation of this model depends on the active participation of the actors involved and requires resources to ensure its sustainability. The involvement of the State is given through the financing of the model where it absorbs part of the system through discounts and tax exemptions to companies based on the number of apprentices trained (Morales, 2014).

The Dual Vocational Training (FPD) with very auspicious results in other countries, would be a way to explore to improve the employability of young people, since the labor insertion is given by an adequate level of qualification, thus constituting an effective tool to combat youth unemployment and an important step towards increasing the rate of workers with a medium level training.

The dual system is a process that trains apprentices in professions and trades in which the training center and the company participate in a coordinated way (Morales, 2014).

Among the bases of the dual system are listed the following:

In the first place, the learner, which is the student who receives the theoretical training in the training center and the practice in the company.

Secondly, companies that offer training places through a training contract to apprentices who wish to carry out their internships.

Thirdly, the contents of the training are determined jointly by the government and representatives of the business organizations.

Fourthly, we find the instructor, who is the one who teaches the theoretical classes, in addition to serving as a counselor and integrator who accompanies the student and the company to maintain the link between the professional experience of the apprentice in the company and the training program

Fifth, the tutor of the company that organizes the learning and defines objectives; it is the one who guides the student's practice in the company.

Sixthly, there needs to be close cooperation between the government, training providers, businesses and the social partners.

In the seventh place, the source of funding for the system is shared between the government and employers.

The eighth place consists of the conditions in which the learning takes place that are determined based on the legal framework.

Ninth, and finally the grades that are awarded through written and practical exams prepared and evaluated by external examiners (Morales, 2014).

The basic structure of the MoPaDual program in the SNPP ("Regulations for State Agencies and Entities", 2018) is described below.

- The Courses of Dual Vocational Training (FPD), have a duration of 2 to 3 years depending on the occupational profile, and they are carried out alternately both at the headquarters of the SNPP, as well as at that of the Organizations or Entities of the Estado (OEE) contracting or the company of the sector.
- The theoretical classes are developed in the SNPP, 1 or 2 times a week or in blocks, according to the stipulations of the Curricular Design in all specialties, totaling a percentage of 30% of the training corresponding to the theoretical framework. They will be governed by the annual calendar of classes of the same.
- The internships are developed in the OEE or companies, according to the stipulations of the Curricular Design in all specialties, totaling a percentage of 70% of the training corresponding to the practical framework. Within it, the OEE or company may develop theoretical classes according to the specific needs of the same, which may not be higher than 20% of the percentage provided for the practical part.
- The complementary practices in the SNPP, are carried out according to the needs detected by the MoPaDual Management or by the OEE or company, so the distributed percentage of teaching time foreseen in principle, could vary exceptionally and the duration of the same will be established by the MoPaDual Management.
- The beneficiary apprentice will attend the OEE or company and in parallel will attend the SNPP, the days and hours stipulated in the Dual Vocational Training Contract.
- The beneficiary apprentice will be examined through quarterly evaluations a final exam and / or project.

In the professional profiles for Industrial Mechanic and Industrial Electrician with two-year dual training courses, the German training professions of Industrial Mechanic and Electronic Technician for Industrial Engineering served as a reference, which were presented and discussed in the workshops. (Correa et al. 2019)

Within the working group of the metallurgical sector it was possible to draw up above all a plan for the first year of training which, in the meantime, was completed with a project for the second year.

The Dual Plan formulates the essential contents of the professional profile, the requirements common to training in the training center (SNPP and in the company). It contains for both places of learning the learning objectives, methodical-didactic references, a column to define tools and materials, as well as another column with indications for the evaluation. To the requirements in terms of content of each element of the professional profile are put before the general learning objectives that characterize the profile of the profession.

These learning objectives always reproduce only a part of the capacity for professional action and should be described both action-oriented and competence-oriented. This concept could be realized until now in a rudimentary way. (Correa et al. 2019)

Both the improvement of the plans and their implementation, which have been taking place since March 2018 in a pilot phase, are a great challenge for all participants. The contents of the training center (SNPP) are structured, until now, rather in a systematic-cognitive way and are taught in a sequential-modular way.

There is virtually no teaching in the form of interdisciplinary projects. Companies also continue to focus heavily on this model. At first it was not clear to them that they should not apply the dual plan one by one and that they can distance themselves from a sequential-modular transmission to develop interdisciplinary work and learning tasks that better respond to their real requirements and processes.

Work on the curriculum projects shows that some specific requirements of companies cannot be met under a uniform profile (e.g. for the metallurgical profile, the foundry technology sector; for the electrical profile, the high voltage sectors, as well as for cooling and air conditioning technology).

So far, the application of training in companies shows in all participants a great commitment and a great willingness to invest time and manpower for training. The integration of apprentices into business practice varies widely between companies.

The margin here ranges from a great distance to practice at the beginning of the training, due to a preponderance of introductory courses guided by theory, to very good work and project scenarios in which apprentices are included from the beginning.

For the preparation of the curriculum, the following points are considered;

- Professional profiles are identified with the productive sector.
- These profiles are validated in sectoral tables.
- The design of the curricular plan is elaborated based on the profile validated by the sector.

In the MoPaDual program, professional profiles were identified and elaborated in conjunction with the productive sector, based on the analysis of existing needs in the metallurgical, electrical and road construction sectors. While in the metallurgical sector already in 2016, an extensive study of the sector had been carried out.

For the metallurgical and electrical sectors, two training profiles were worked on from September 2017 in various workshops together with companies, training staff and instructors, as well as with other experts from the participating organizations.

In the metallurgical sector, representatives of six companies participated mainly, and representatives of two large companies, including the state-owned energy supply company, participated in the electricity working group.

The companies were represented by managers, officials with managerial positions, as well as tutors appointed by their companies who, in parallel to their contributions in these workshops, have participated in a training program for SNPP trainers that has been developed and implemented with the help of the CIM Expert integrated in the MoPaDual program in the SNPP.

Entry requirements to the MoPaDual Program ("Regulations for OEE State Agencies and Entities", 2018).

There is a legal link between the loan and the companies or OEE, through a paid apprenticeship contract. The program is governed by a MoPaDual regulation, both for private companies and for OEE. The apprentice obtains, at the end of his training, the Certificate of Professional Aptitude (CAP), which describes the complete process of the training, issued by the MTESS-SINAFOCAL-SNPP. (MTESS Resolution, 2018)

Requirements for the apprentice. ("Regulation for State Agencies and Entities" OEE, 2018).

- Have a Basic School Level Training
- Minimum age 16 (ten and six) years old up to a maximum of 24 years.
- On the other hand, if the apprentice has the Baccalaureate Level Training, the minimum age must be 18 (ten and eight) up to 24 years of age.
- Have completed the baccalaureate in the technical specialty that corresponds to the chosen profession.

Requirements for the company. ("Regulations for State Agencies and Entities" OEE, 2018)

The Entry Conditions for Companies and OEE range from signing an agreement between the company or OEE and the Ministry of Labor, Employment and Social Security (MTESS) / National System of Training and Labor Training (SINAFOCAL) / National Service for Professional Promotion (SNPP), select apprentices, have the necessary infrastructure for the development of apprenticeship training, according to the branch of the business and have one or more staff, according to the number of apprentices to be incorporated, who will be trained as a Tutor ("MoPaDual Regulation", 2018).

4. CONCLUSIONS

Assessment made by employers on the curricular plan of the specialty of Industrial Mechanics of the MoPaDual program and its adaptation to the demands of the labor market.

In general, employers value in a very satisfactory way the curricular plan of the specialty of Industrial Mechanics of the MoPaDual program, as well as its adaptation to the demands of the labor market. However, some actors recommended adjustments so that the experience can be more satisfactory in the training companies, they made it clear that they would recommend the system since it is an interesting project because specific technicians are trained and, at the same time, the companies fulfill their role with the educational society and social responsibility.

It is also relevant to highlight the scope that can be achieved among young people who are not part of the system with the experience of apprentices since the system even helps the revaluation of technical work by young people.

It can also be said that there is a positive perception on the part of the main actors of the program about the training given by the instructors, which we can see on the one hand by the employers and tutors who said that the apprentices receive adequate training and this is possible to corroborate when comparing the performance of these with the interns who are not part of the program. Similarly, some believe that the program should be updated at some points or make some small changes to make it work better in their companies.

On the other hand, this positive perception is also shared by the trainees since they emphasize that their participation in the program improved their initial expectations achieving significant changes in their attitudes towards work and their future. In addition, it is highlighted that these experiences lead to the conclusion that the program positively influences employability, generating at the same time a relevant impact, not only in the development of skills, but in the knowledge that goes beyond a professional training as a result of the dynamics that arise between the instructor and the company that creates new forms of learning in them.

It is concluded that the level of employability of the apprentices who complete the training in the Specialty Industrial Mechanics is high, since according to the results all the apprentices who complete the program receive a job offer from the company where they were trained, some do not accept the offer because they change the course of their career, others for personal reasons such as distance from the company and their home, or because they want to continue their university studies

However, beyond the effects that the model has at the individual and business level among its participating actors, the articulation generated between education and employment can have better effects if there is a consolidation of this link that allows its continuity, an extension to a greater number of training centers and companies, and greater recognition and validity at the national level.

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